

CLAIMS

1. A radio communication method whereby a communication terminal apparatus sets a TFC (Transport Format Combination) pointer based on an up/down/keep signal from a radio base station apparatus, and performs uplink transmission based on a TFC indicating a transmission rate not exceeding this TFC pointer; wherein TFC pointers of a communication terminal apparatus and radio base station apparatus are made to match using a TFCI (Transmit Format Combination Indicator) transmitted from said communication terminal apparatus.

2. The radio communication method according to claim 1, comprising:

a TFC determination step in which a communication terminal apparatus determines a TFC; a step in which said communication terminal apparatus makes its own TFC pointer match with a TFC determined in said TFC determination step;

a TFCI transmission step in which said communication terminal apparatus transmits a TFCI indicating a determined TFC to a radio base station apparatus;

a TFC pointer updating step in which said radio base station apparatus updates its own TFC pointer to a TFC indicated by a TFCI; and

a step in which said radio base station apparatus determines a new TFC pointer, generates an up/down/keep signal for controlling a TFC pointer of said communication terminal apparatus by comparing this new TFC pointer with said updated

TFC pointer, and transmits this up/down/keep signal.

3. The radio communication method according to claim 1, further comprising:

5 a TFC determination step in which a communication terminal apparatus determines a TFC;

a TFCI transmission step in which said communication terminal apparatus transmits to a radio base station apparatus information constituting a basis for determining a TFC in
10 addition to a TFCI indicating a determined TFC;

a step in which said radio base station apparatus determines whether or not a TFC pointer of said communication terminal apparatus is different from its own TFC pointer based on a TFC of said communication terminal apparatus and information
15 constituting a basis thereof; and

a step in which, if said radio base station apparatus determines that a TFC pointer of said communication terminal apparatus is different, said radio base station apparatus transmits its own TFC pointer information to said communication
20 terminal apparatus.

4. The radio communication method according to claim 1, further comprising:

a TFC determination step in which a communication terminal
25 apparatus determines a TFC;

a step in which said communication terminal apparatus transmits to a radio base station apparatus a flag signal

indicating whether or not a TFC pointer of said communication terminal apparatus itself and a TFC determined in said determination step match in addition to a TFCI indicating a determined TFC;

5 a step in which said radio base station apparatus determines whether or not a TFC pointer of said communication terminal apparatus is different from its own TFC pointer based on said TFCI and flag signal; and

10 a step in which, if said radio base station apparatus determines that a TFC pointer of said communication terminal apparatus is different, said radio base station apparatus transmits its own TFC pointer information to said communication terminal apparatus.

15 5. The radio communication method according to any one of claim 2 through claim 4, wherein said radio base station apparatus transmits a keep signal to said communication terminal apparatus in a period up to transmission of a signal for controlling a TFC pointer of said communication terminal
20 apparatus after receiving a TFCI from said communication terminal apparatus.

6. A radio communication system whereby a communication terminal apparatus changes a TFC pointer based on an
25 up/down/keep signal from a radio base station apparatus, selects a TFC that indicates a transmission rate not exceeding this TFC pointer, and performs uplink transmission based on said

selected TFC; wherein:

said communication terminal apparatus transmits a TFCI indicating said selected TFC to said radio base station apparatus; and

5 said radio base station apparatus references a TFC indicated by said TFCI and generates a signal for changing a TFC pointer such as said up/down/keep signal or a TFC pointer information signal, and transmits this signal for changing a TFC pointer to said communication terminal apparatus.

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7. A radio base station apparatus comprising:

a TFCI (Transmit Format Combination Indicator) extraction section that extracts a TFCI transmitted from a communication terminal apparatus;

15 an up/down/keep signal forming section that references an extracted TFCI and generates an up/down/keep signal for changing a TFC (Transport Format Combination) pointer of said communication terminal apparatus; and

20 a transmission section that performs radio transmission of said up/down/keep signal.

8. The radio base station apparatus according to claim 7, further comprising:

25 a TFCI checking section that checks whether or not a TFC pointer of said radio base station apparatus is different from a TFC indicated by said TFCI, and if a TFC pointer of said radio base station apparatus is different from a TFC indicated by

said TFCI, updates a TFC pointer of said radio base station apparatus to a TFC indicated by said TFCI; and

a TFC pointer determination section that generates a control signal for generating said up/down/keep signal by
5 comparing this updated TFC pointer with a new TFC pointer.

9. The radio base station apparatus according to claim 7, further comprising: a power margin/buffer information extraction section that extracts power margin information
10 and/or buffer size information transmitted from a communication terminal apparatus;

a TFCI checking section that determines whether or not a TFC pointer of said communication terminal apparatus is different from a TFC pointer of said radio base station apparatus
15 based on a TFC indicated by said TFCI and said power margin information and/or buffer size information constituting a basis thereof; and

a TFC pointer transmission section that transmits TFC pointer information of said radio base station apparatus to
20 said communication terminal apparatus if a TFC pointer of said radio base station apparatus is different from a TFC indicated by said TFCI.

10. The radio base station apparatus according to claim 7,
25 further comprising:

a pointer flag extraction section that extracts a flag signal indicating whether or not a TFC pointer of a communication

terminal apparatus transmitted from said communication terminal apparatus and a TFC determined by said communication terminal apparatus match;

5 a TFCI checking section that determines whether or not a TFC pointer of said communication terminal apparatus is different from a TFC pointer of said radio base station apparatus based on said TFCI and flag signal; and

10 a TFC pointer transmission section that transmits TFC pointer information of said radio base station apparatus to said communication terminal apparatus if a TFC pointer of said communication terminal apparatus is determined to be different.

11. A communication terminal apparatus comprising:

15 a TFC determination section that determines a TFC indicating a transmission rate not exceeding a TFC pointer;

a TFC pointer control section that updates a TFC pointer based on an up/down/keep signal from a radio base station apparatus and also performs updating by matching with a TFC determined by said TFC determination section; and

20 a TFCI transmission section that transmits a TFCI indicating a TFC determined by said TFC determination section to said radio base station apparatus.

12. A communication terminal apparatus comprising:

25 a TFC determination section that determines a TFC indicating a transmission rate not exceeding a TFC pointer;

a TFC comparison section that determines whether or not

a TFC determined by said TFC determination section and a TFC pointer of said communication terminal apparatus match; and a transmission section that, if a determined TFC and a TFC pointer of said communication terminal apparatus do not match, transmits
5 to a radio base station apparatus a TFCI indicating a TFC determined by said TFC determination section and also information constituting a basis for determining a TFC.

13. A communication terminal apparatus comprising:

- 10 a TFC determination section that determines a TFC indicating a transmission rate not exceeding a TFC pointer;
a TFC comparison section that determines whether or not a TFC determined by said TFC determination section and a TFC pointer of said communication terminal apparatus match; and
15 a transmission section that transmits to a radio base station apparatus a TFCI indicating a TFC determined by said TFC determination section and also a pointer flag signal indicating whether or not a determined TFC and a TFC pointer of said communication terminal apparatus match.